Methods: Eleven students (mean age = 19 ± 2.17 years old) from the University of Santo Tomas – College of Rehabilitation Sciences were involved in a 3-week study comparing the effects of the STEP protocol with a conventional strengthening program for anterior shoulder instability. The subjects were screened with special tests, X-ray, and were randomly assigned to experimental and control groups. Both groups received a 3-week program with different sets of exercises. Pretest and postest data were acquired by having the subjects answer the Western Ontario Shoulder Instability Index (WOSI) and the Quick-DASH.
Results: Independent t-tests show that subjects were homogenous at baseline. Results show that there were no significant differences within and between the two groups. However, clinical improvements were seen in the two groups based on their pre and posttest scores, with the experimental group exhibiting more improvement than the control group.
Conclusion: There was no statistical difference between the STEP protocol and conventional strengthening program in treating individuals with anterior shoulder instability. Also, proper dosage, repetitions, and type of stimulation during exercise are important in recovery of patients with shoulder instability, which was seen in the greater clinical improvement of the STEP group than of the conventional group.

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What is the factor for affecting the period of the conservative therapy in frozen shoulder?

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Background and purpose: It takes several months to several years for recovering. The frozen shoulder has the symptoms include severe restriction joint mobility. The healing is needed from several months to several years, and those periods are varied. The purpose of this study is to examine factors of affection during the conservative therapy period in frozen shoulder.
Methods: 28 patients who were diagnosed as a frozen shoulder were included in the study. All patients were below 120 degrees with passive shoulder flexion at the first medical. All patients were treated with conservative therapy consisting of combinations of nonsteroidal anti-inflammatory medication and physiotherapy for range of motion(ROM). We investigated the relationship between passive shoulder ROM at 1st ER and flexion at the first medical and the period of conservative therapy (PCT). The PCT was defined from first medical examination to end with healing (no pain, normalization of ROM).Patients were divided into two groups according to the PCT, that is A group from 110 to 220 days (n=14), B group from 221 to 510 days (n=14). For statistical analysis, the ROM of two groups were compared using t-test and, correlation between ROM and PCT were also examined using Pearson coefficient of correlation.
Results: 1stER ROM at the first medical examination of A group was significantly higher than that of Bgroup ($p<0.05$). 1stER and flexion ROM at the first medical examination had correlation with PCT ($r=-0.53$, $p<0.01$, $r=-0.41$, $p<0.05$, respectively).
Conclusion: The period of conservative therapy correlated with the 1st ER and flexion ROM at the first medical examination.

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The relationship bewteen tibial bone parameters measured by quantitative computed tomograhpy and hip bone density measured by dual-energy X-ray absorptiometry in chronic stroke patients

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Background and purpose: Hip fracture is the most common fracture in stroke patients. Dual-energy X-ray absorptiometry, which generates areal bone mineral density (aBMD), is considered as the gold standard for diagnosing osteoporosis and predicting fracture risk. Peripheral quantitative computed tomography (pQCT), on the other hand, is a relatively new bone imaging technique that can assess bone geometry and mass distribution, and can thus provide valuable information on integrity of bone tissue that cannot be assessed by DXA. The most common lower limb skeletal site used for pQCT scanning is the tibia because of its peripheral location and the fact that it is a major weightbearing bone in the body. This study aimed at examining the correlation between pQCT-derived tibial bone variables and DXA-derived hip aBMD.
Methods: 74 chronic stroke patients (22 women and 52 men; >6 months after onset) participated in this cross-sectional study through convenience sampling. Each subject underwent a pQCT scanning of the tibia distal epiphysis (4% site) and diaphysis (66% site), as well as a hip DXA scan in both the paretic and non-paretic legs. Pearson's correlation coefficient was used to investigate the correlation between pQCT- and DXA-derived variables.
Results: Generally, good to excellent correlations were found between pQCT-derived tibial data and DXA-derived hip aBMD data. The tibial variables that demonstrated the highest correlations with hip aBMD were cortical bone area (paretic: $r = 0.78$, non-paretic: 0.81; $p<0.001$), cortical thickness, (paretic: $r=0.78$, non-paretic: $r=0.81$; $p<0.001$) measured at the 66% site, and compressive bone strength index, (paretic: $r=0.77$, non-paretic: $r=0.78$; $p<0.001$) measured at the 4% site.
Conclusion: The pQCT-derived tibial bone variables showed good correlation with hip aBMD measured by DXA (gold standard). A prospective study investigating the relationship between pQCT-derived tibial bone data and incidence of hip fractures is required in order to further establish its validity in predicting hip fracture risk in stroke patients.

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Use of the mini balance evaluation systems test for predicting falls in individuals with stroke: Comparison with 8 other balance and mobility tests

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Background and purpose: Falls are common following a stroke, but knowledge about predicting future fallers is limited. The mini-Balance Evaluation Systems Test (mini-BESTest) is a relatively new tool developed to assess balance function. The objective of this prospective cohort study was to examine the validity of the mini-Balance Evaluation Systems Test (mini-BESTest) in predicting falls in among individuals with stroke.
Methods: A convenience sample of 92 non-demented community-dwelling individuals with chronic stroke participated in the study. Subjects completed a battery of tests which included the mini-BESTest, Berg Balance Scale (BBS), Activities-specific Balance Confidence Scale (ABC), one leg stance (OLS), timed up and go test (TUG), 6 minutes walk test (6MWT), 10 meters walk test (10MWT), functional ambulation category (FAC) and functional reach (FR). To collect data on falls, each subject was followed up for a period of 12 months after the initial assessment. Logistic regression was used to determine the association of fall incidents with mini-BESTest and other balance/mobility measures.
Results: The mini-BESTest was the only measure that could significantly predict falls in the 12-month follow-up period (Odds ratio (OR)=0.906, $p=0.034$). For every 1-unit decrease in mini-BESTest total score, the chance of having a fall in the future 12 months increases by 9.4%. The optimal cut-off score of mini-BESTest in identifying future fallers was 18.5 at a sensitivity of 70.6% and specificity of 58.7%.
Conclusion: Among the various balance and mobility tests commonly used in stroke rehabilitation, the mini-BESTest was the only test that could significantly predict the incidence of fall(s) in the 12-months prospective follow-up period among the individuals with stroke.

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